

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend the claims as follows:

1-20. (Canceled)

21. (Currently Amended) In a sending domain that is network connectable to one or more receiving domains, the sending domain including a sending messaging server configured to send electronic messages to the receiving domains, a method for indicating to a receiving side domain that the sending messaging server expended computational resources to solve a computational puzzle before sending an electronic message to the receiving side domain, the method comprising:

an act of the sending messaging server receiving electronic message data that is to be contained in an electronic message sent from the sending messaging server to the receiving side domain;

~~an act of generating an initial document from different portions state information;~~

an act of the sending messaging server generating puzzle input from one or more components of the electronic message, the one or more components selected from a group consisting of: among at least a message body, a message attachment, and a message header, and wherein the act of generating puzzle input generation including includes one or more of: extracting portions of [[a]] at least one of the one or more components, hashing portions of [[a]] at least one of the one or more components, and concatenating portions of [[a]] at least one of the one or more components;

an act of the sending messaging server identifying an answer document using the computational puzzle such that an answer hash value, calculated from a combination of the answer document and the puzzle input hash value, is an answer value for a computational puzzle, the answer value being calculated using a puzzle hash algorithm, wherein the act of identifying the answer document further comprises, calculating an answer hash value using a hashing algorithm that alters a standard application of SHA-1 sub-functions; and

an act of sending ~~[[an]]the~~ electronic message from the sending messaging server to the receiving side domain, wherein the electronic message includes~~that includes~~ the identified answer document and the electronic message data enabling verification by the receiving side domain that the sending messaging server expended computational resources without further communication with the sending messaging server. ~~to the receiving side domain.~~

22. (Currently Amended) The method as recited in claim 21, wherein the act of the sending messaging server receiving electronic message data that is to be contained in an electronic message comprises an act of receiving electronic message data that is to be contained in an electronic mail message.

23. (Currently Amended) The method as recited in claim 21, further comprising ~~anwherein the~~ act of generating an initial document from at least one of the one or more components, wherein the act of generating the initial document comprises ~~different portions of state information comprises an act of~~ extracting data from at least one field of the electronic message data wherein the at least one field is selected from a From field, a To field, a NotBefore field, a NotAfter field, a Date field, a Body field, an Attachment field, a Subject field, and a Message-Id field.

24. (Currently Amended) The method as recited in claim ~~[[21]]~~23, wherein the act of generating an initial document from at least one of the one or more components ~~different portions of state information~~ comprises an act of extracting data from one or more date range fields.

25. (Currently Amended) The method as recited in claim ~~[[21]]~~23, wherein the act of generating an initial document from at least one of the one or more components ~~different portions of state information~~ comprises an act of extracting data wherein the data is text data, graphical data, Uniform Resource Identifier ("URI") data, or executable data.

26. (Currently Amended) The method as recited in claim 21, wherein the act of the

sending messaging server identifying an answer document comprises an act of identifying an answer document that, when combined with the puzzle input and the combination of the answer document and puzzle input is hashed, results in a hash value having a specified value in a plurality of fixed bit positions.

27. (Currently Amended) The method as recited in claim 26, wherein the act of the sending messaging server identifying an answer document comprises an act of identifying an answer document that, when prepended to the puzzle input and the concatenation of the answer document and puzzle input is hashed, results in a hash value having a value of zero in at least a first specified number of bits.

28. (Currently Amended) The method as recited in claim 21, wherein the act of the sending messaging server identifying an answer document comprises an act of identifying an answer document that, when concatenated to the puzzle input and the concatenation of the answer document and puzzle input is hashed, results in a hash value having specified bit values in a first plurality of bit positions and having bit values equal to the corresponding bit values of [[in]] the hashes resulting from other answer documents in a second plurality of bit positions.

29. (Currently Amended) The method as recited in claim 28, wherein the act of the sending messaging server identifying an answer document comprises an act of identifying an answer document that, when concatenated to the puzzle input and the concatenation of the answer document and puzzle input is hashed, results in a hash value having specified values in each bit position of a hash value prefix and a value equal to corresponding hash bit values resulting from other answer documents in a hash value suffix.

30. (Currently Amended) The method as recited in claim 21, wherein the act of the sending messaging server identifying an answer document comprises an act of using an puzzle hash algorithm, the puzzle hash algorithm being specifically designed to increase the difficulty of implementing hardware acceleration of the puzzle hash algorithm.

31. (Canceled)

32. (Original) The method as recited in claim 21, wherein the act of sending an electronic message that includes the identified answer document and the electronic message data to the receiving side domain comprises an act of sending an electronic message that includes a plurality of answer documents.

33. (Original) The method as recited in claim 21, further comprising: an act of querying a server to determine if the receiving domain is configured to verify answers to computational puzzles; and an act of receiving one or more DNS TXT records that contain electronic message configuration information for the receiving domain.

34. (Currently Amended) The method as recited in claim ~~[[32]]~~33, wherein the act of querying a server comprises an act of querying a server in response to the sending domain not supporting electronic mail transmission policy certificates.

35. (Currently Amended) The method as recited in claim ~~[[32]]~~33, wherein the act of receiving one or more DNS TXT records comprises an act of receiving one or more DNS TXT records that encode the electronic message configuration information in XML instructions

36. (Currently Amended) In a receiving domain that is network connectable to one or more sending domains, the receiving domain including one or more receiving messaging servers configured to receive electronic messages from the sending domains, a method for determining if a sending messaging server solved a computational puzzle before sending an electronic message, the method comprising:

an act of receiving an electronic message that includes electronic message data and an answer document;

~~an act of reproducing an initial document from different portions state information contained in the message;~~

an act of recalculating a puzzle input from one or more components of the electronic message, the one or more components selected from a group consisting of: among at least a message body, a message attachment, and a message header, and wherein puzzle input generation including recalculation includes one or more of: extracting portions of [[a]] at least one of the one or more components, hashing portions of [[a]] at least one of the one or more components, and concatenating portions of [[a]] at least one of the one or more components, wherein the act of recalculating a puzzle input from one or more components of the electronic message comprises an act of applying a hashing algorithm that alters the standard application of SHA-1 sub-functions;

an act of determining if a verifying hash value, calculated from a combination of an the answer document and the puzzle input ~~hash value~~, is an answer value indicative of a solution to the computational puzzle, the verifying hash value being calculated using a ~~puzzle~~ the hashing algorithm; and

an act of providing results of the determination to a message classification module ~~such that~~ wherein the message classification module determines, based on the results, whether the received electronic message is spam. [[can]] make a more reliable decision when classifying the received electronic message.

37. (Original) The method as recited in claim 36, wherein the act of receiving an electronic message that includes electronic message data and an answer document comprises an act of receiving an electronic mail message.

38. (Original) The method as recited in claim 36, wherein the act of receiving an electronic message that includes electronic message data and an answer document comprises an act of receiving an electronic message that includes a plurality of answer documents.

39. (Currently Amended) The method as recited in claim 36, further comprising an wherein the act of reproducing an initial document from at least one of the one or more components different portions of state information contained in of the electronic message, wherein the act of reproducing the initial document comprises an act of extracting data

from a field of the electronic message data wherein the field is selected from among a From field, a To field, a NotBefore field, a NotAfter field, a Date field, a Body field, an Attachment field, a Subject field, and a Message-ID field.

40. (Currently Amended) The method as recited in claim ~~[[36]]~~39, wherein the act of reproducing an initial document from ~~different portions of state information contained in~~ at least one of the one or more components of the electronic message comprises an act of extracting data from the electronic message data wherein the data is text data, graphical data, Uniform Resource Identifier ("URI") data, or executable data.

41. (Currently Amended) The method as recited in claim 36, wherein the act of recalculating a puzzle input from one or more components of the electronic message comprises an act of applying an ~~altered~~ the hashing algorithm, the ~~altered~~ hashing algorithm being specifically designed to increase the difficulty of implementing hardware acceleration ~~that can be~~ used to enhance efficiency of the ~~altered~~ hashing algorithm.

42. (Canceled)

43. (Original) The method as recited in claim 36, wherein the act of determining if a verifying hash value, calculated from a combination of an answer document and the puzzle input, is an answer value indicative of a solution to the computational puzzle comprises an act of determining if the verifying hash value has a specified value in a plurality of fixed bit positions interspersed throughout the verifying hash value.

44. (Original) The method as recited in claim 36, wherein the act of determining if a verifying hash value, calculated from a combination of an answer document and the puzzle input, is an answer value indicative of a solution to the computational puzzle comprises an act of determining if the verifying hash value has a specified value in a first plurality of bit positions and has a value equal to other verifying hash values resulting from other answer documents in a second plurality of bit positions.

45. (Canceled)

46. (Currently Amended) A computer program product for use in a sending domain that is network connectable to one or more receiving domains, the sending domain including a sending messaging server configured to send electronic messages to the receiving domains, the computer program product for implementing a method for indicating to a receiving side domain that the sending messaging server expended computational resources to solve a computational puzzle before sending an electronic message to the receiving side domain, the computer program product comprising one or more computer storage computer-readable media having stored thereon computer executable instructions that, when executed by a processor, cause the sending domain to perform the following:

receive electronic message data that is to be contained in an electronic message;

~~generate an initial document from different portions state information;~~

generate puzzle input from one or more components of the electronic message, the one or more components selected from a group consisting of: among at least a message body, a message attachment, and a message header, and wherein puzzle input generation ~~including~~includes one or more of: extracting portions of [[a]] at least one of the one or more components, hashing portions of [[a]] at least one of the one or more components, and concatenating portions of [[a]] at least one of the one or more components;

identify an answer document using the computational puzzle, wherein identifying the answer document comprises calculating an answer hash value using a hashing algorithm that alters a standard application of SHA-1 sub-functions such that an answer hash value, calculated from a combination of the answer document and the puzzle input hash value, is an answer value for a computational puzzle, the answer value being calculated using a puzzle hash algorithm; and

send ~~[[an]]~~the electronic message ~~[[that]]~~ to the receiving side domain, wherein the electronic message includes the identified answer document and the electronic message and enables verification by the receiving side domain that the sending messaging server expended computational resources without further communication with the sending messaging server. to the receiving side domain.

47. (Currently Amended) A computer program product for use in a receiving domain that is network connectable to one or more sending domains, the receiving domain including one or more receiving messaging servers configured to receive electronic messages from the sending domains, the computer program product for implementing a method for determining if a sending messaging server solved a computational puzzle before sending an electronic message, the computer program product comprising one or more computer storage computer-readable media having stored thereon computer executable instructions that, when executed by a processor, cause the receiving domain to perform the following:

receive an electronic message that includes electronic message data and an answer document;

~~reproduce an initial document from different portions state information contained in the message;~~

recalculate a puzzle input from one or more components of the electronic message, the one or more components selected from a group consisting of: among at least a message body, a message attachment, and a message header, and wherein puzzle input generation including recalculation includes one or more of: extracting portions of [[a]] at least one of the one or more components, hashing portions of [[a]] at least one of the one or more components, and concatenating portions of [[a]] at least one of the one or more components, wherein recalculating a puzzle input from one or more components of the electronic message comprises an act of applying a hashing algorithm that alters the standard application of SHA-1 sub-functions;

determine if a verifying hash value, calculated from a combination of ~~an~~ the answer document and the puzzle input ~~hash value~~, is an answer value indicative of a solution to the computational puzzle, the verifying hash value being calculated using a puzzle the hashing algorithm; and

provide results of the determination to a message classification module such that the message classification module determines, based on the results, whether the received electronic message is spam. ~~can make a more reliable decision when classifying the received electronic message.~~

48-53. (Canceled)